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NRO REVIEW COMPLETED

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Copy 6 of 13

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15 APR 1971

MEMORANDUM FOR: Director, CIA Reconnaissance Programs  
SUBJECT: Program Progress Report

Forwarded herewith are three copies of the IDEALIST  
Program Progress Report for the period 1 January 1971 -  
31 March 1971.

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HAROLD F. KNOWLES  
Brigadier General, USAF  
Director of Special Activities

Attachments -  
As stated 6422-71)

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SAS/O/OSA: [REDACTED] (6 April 1971)

Distribution:

- 1 - D/CRP
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- 4 - DDS&T Reg
- 5 - D/SA
- 6 - SAS/O/OSA
- 7 - D/O/OSA
- 8 - IDEA/O/OSA
- 9 - INTEL/O/OSA
- 10 - D/M/OSA
- 11 - R&D/OSA
- 12 - AMS/OSA
- 13 - RB/OSA

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IDEALIST

DEVELOPMENT SUMMARY AND PROGRESS

(1 JANUARY 1971 - 31 MARCH 1971)

I. AIRFRAME

A. Exploratory IRAN - Aircraft 058 was transferred from Detachment H to Lockheed Aircraft Corporation (LAC), Palmdale, California to undergo an exploratory IRAN on 5 February 1971. Results of this IRAN indicate that other U-2R aircraft will not require IRAN until they reach at least 2500 hours total time.

B. Transfer of Aircraft - Aircraft 053 was transferred from Detachment G to Detachment H during SWAP SHOP XII in January 1971. Aircraft 051 was transferred from Detachment G to Detachment H during SWAP SHOP XIII in March 1971.

C. New Emergency AC Generator - Subject generator has been flight tested, evaluated and accepted. LAC is fabricating kits for three additional aircraft. [ ] is in process of procuring the generators required for these kits.

D. HF Radio - Serious consideration is being given to a proposal from Collins Radio for retrofit of the 718T-6 HF radio equipment with lightweight 718U-7 equipment. The Lockheed proposal for installation of this equipment is under review. The following are the advantages of using this off-the-shelf equipment:

1. Weight reduction is approximately 93 pounds of critical forebody weight.

2. Installation is planned to be at base of vertical stabilizer, thus vacating E-Bay.

3. There is no requirement for forced air cooling; eliminating the need for cooling blower and present "overboard" pressurization leak in E-Bay.

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4. Mean time between failure is increased from 750 to 1500 hours.

5. Sixty per cent of box components are plug-in circuit boards.

E. U-2R Flight Test and Operational Training Summary

	<u>1 JAN-31 MAR</u> <u>FLTS.</u>	<u>1 JAN-31 MAR</u> <u>TIME</u>	<u>TOTAL</u> <u>FLTS.</u>	<u>TOTAL</u> <u>TIME</u>
1 - 051	26	101.8	272	916.4
2 - 053	37	110.5	246	942.8
3 - 054	27	77.7	291	944.9
4 - 055	44	109.1	335	1044.1
5 - 057	(attrited 24 Nov 70)		355	1211.4
6 - 058	<u>21</u>	<u>75.9</u>	<u>378</u>	<u>1185.7</u>
TOTAL	155	475.0	1877	6245.3

II. PAYLOAD

A. B-2 Camera - Hycon has submitted an Engineering Change Proposal (ECP) for modification of the B-2 Camera with a new f/8 lens and associated shutter. Upon installation of this 8-element, 36 inch lens and shutter, the camera will be designated B-3. Details of the ECP are being worked out with R&D, Contracts, Materiel, and Hycon representatives.

B. "H" Configuration - Two new 7-element, 66 inch, f/5.6 lenses have been ordered from Hycon for installation in the "H" configuration cameras. Flight testing of improved system is scheduled to begin in August 1971.

C. Q-Bay Preconditioning - Seven Q-Bay preconditioning carts have been ordered from Lockheed. Delivery of the first unit is expected 9 August 1971.

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D. Additional 17B Nose - A new 17B nose, converted from a 6B nose, was received from Lockheed during March 1971. The IDEALIST Program now has four 17B noses available for use.

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C.

On 29 January 1971 the EXCOM rejected the D/NRO's request for approval to pursue the [ ] concept. No further effort is anticipated on this program unless specifically requested.

D. Apochromatic 24" Focal Length Petzval Lens

During this time period the following major milestones were achieved:

1. Mechanical fabrication of all parts was completed.
2. Optical fabrication of all optical elements was completed.
3. Procurement of all ancillary parts was completed.
4. Lens assembly was initiated.

V. AERO MEDICAL AND LIFE SUPPORT ACTIVITIES

A. Medical

2. Considerable time has been spent in determining the physical status of technical representatives in the field. Some problems in this area were initially presented in the Office of Medical Services (OMS) this past summer. We have worked with Contracts Management Division in encouraging vendor companies to prepare their own program of physical examinations, similar to the Agency, in an effort to reduce potential medical problems when personnel are overseas.

3. The question was raised with regard to discouraging ownership and use of motorcycles [ ] in order to preserve humans for mission purposes. It is believed this matter has been resolved.

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[REDACTED]

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5. Phase II of the Resistance to Interrogation Training was given under our supervision by PSS/OMS and Security [REDACTED] from 21-26 January 1971 for [REDACTED] project pilots.

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[REDACTED]

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B. Life Support Equipment

1. Six-Line Release - The test program covering Engineering Change Proposal U-2R-61 concerning control of personnel parachutes was delayed in early January. However, the Pull tests are now completed. The results were pessimistic. Because of the questionable techniques used in these early tests, Lockheed is continuing the evaluation and anticipates proceeding to El Centro, California for whirl tower and live jumps in April.

2. Pressure Suit Data Bank - At a Life-Support Conference held in Washington, D.C., the last week of February 1971, a pressure suit data bank was started with inputs from Detachment G, Davis Monthan AFB, and Beale AFB. This will be a compilation of unclassified information related to all full-pressure suits presently in service. The data will be stored at Warner Robins AFB and will be available to any interested agency.

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3. S-1010 Pilot Protective Assembly (PPA) Sizing Problems - Sizing of the custom-fit S-1010 PPA has been a problem only in isolated cases where pilot preference dictated a larger size than that which was fabricated. With the inclusion of "J" adjustments, this slight irritation should be resolved. The only other difficult area lies in the fitting of the booties. Future sizing of boots will be by individual trial and error as well as measurement to confirm the proper fit of the booties before installation onto the full-pressure suit.

4. S-1010 Helmet - The present helmet was evaluated for the possibility of design changes which would allow the use of the same basic helmet for all full-pressure suits. The David Clark Company will present a proposal on this subject and two flyable helmets will be tested at Detachment G.

5. Automatic Seat Kits - Automatically deployed survival kits are in service in the Air Force in the F-4, A-7D, F-106, B-57, and F-104. A design engineer from Global Systems Corporation presented the state of the art briefing and made recommendations concerning the retro-fit of an automatic device into the U-2R kit. [redacted] will perform some test jumps with this device in the spring or early summer to establish its compatibility with the present system.

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### C. Training

Physiological Training - Physiological training, including full-pressure suit chamber flights and explosive decompressions, was accomplished for [redacted] an LAC test pilot, [redacted] A complete suit fitting preceded these flights with a factory engineer in attendance.

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IDEALIST

OPERATIONAL SUMMARY AND STATUS

(1 JANUARY 1971 - 31 MARCH 1971)

I. OPERATIONAL MISSION SUMMARY

Eight IDEALIST/TACKLE operational missions were alerted during this period.

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All missions were planned to be flown a minimum of 20 nautical miles off the mainland China coast in compliance with current restrictions. Following is a summary of accomplished missions:

1. Mission

This sortie was flown to collect photo along the China coast from a point north of Foochow to a point south of Hong Kong. Only seven of the 66 programmed targets were covered as a result of the pilot inadvertently selecting the wrong position on the camera control switch. Two bonus COMIREX targets were covered.

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2. Mission

This mission was designed to obtain photographic coverage from east of the Shantung Peninsula to a point east of Port Arthur. Photographic interpretability ranged from poor to good. Twenty-eight of 50 programmed targets were covered with additional coverage of three bonus targets.

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The mission product was distributed to the community after evaluation.

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3. Mission

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This sortie was flown to collect photo [redacted] along the north China coast from east of Port Arthur to east of the Shantung Peninsula. Forty-eight of 52 programmed targets were covered with five bonus COMIREX targets.

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The mission was considered a success.

II. GENERAL

A. SWAP SHOP. Ten ferry sorties were flown during transfer of Articles 053 and 051 to Detachment H and return for IRAN of Article 058.

B. RED DOT. Five sorties were flown in support of continuing film tests using various camera configurations in the U-2C/G and the U-2R.

C. IRIS II. Twelve missions were flown with the modified optical bar camera.

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H. HURRICANE BASE LINE. Two sorties were flown to obtain photography of Gulf Coast areas for the Office of Emergency Preparedness.

I. SNOW SURVEY. One sortie was flown to photograph Sierra snowfields for the Department of Commerce.

J. EARTHQUAKE DAMAGE SURVEY. Four sorties were flown to obtain damage assessment photography of the Los Angeles earthquake area.

III. PILOT AND AIRCRAFT STATUS (AS OF 31 MARCH 1971)

A. Detachment "G" (Edwards AFB - North Base)

Aircraft                      3 U-2R  
                                 1 U-2C  
                                 2 U-2G (Flyable Storage)

Pilots

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B. Detachment "H"

Aircraft                      2 U-2R

Pilots

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